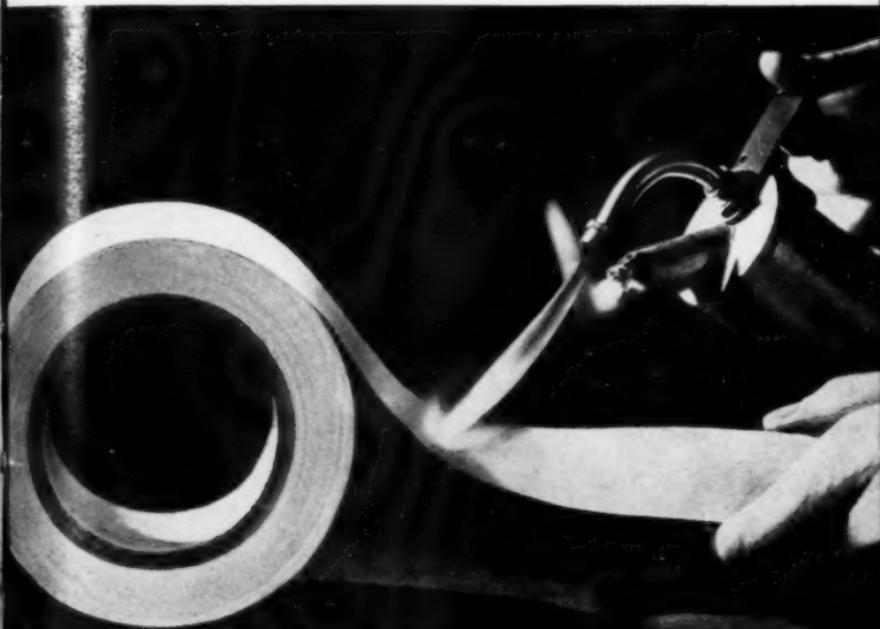


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Volume 30	JUNE 1949	Number 12
<i>Editorials</i>		
We are Moving		2
A. S. H. V. E. Guide		2
Asbestos in Automobile Tires?		3
Philadelphia Adopts New Building Code		3
RECENT TRENDS IN ASBESTOS MINING AND MILLING PRACTICE (Part II)		
<i>By Michael J. Messel</i>		4
Census of Manufactures — 1947		18
Report on Alaska Asbestos Deposits		20
Statistics on Australian Asbestos		22
ASBESTOS COATING A FEATURE OF CAREY ASPHALT SHINGLE		
Market Conditions		24
Automobile Sales		26
Building		28
Production Statistics		30
Imports and Exports		32
Pipe Bushings Out of Standard Pipe		36
Real Pipe Service — <i>A Service Tale</i>		38
NEWS OF THE INDUSTRY		
Patents		40
Afterthoughts		48
Current Range of Price		51
Asbestos Stock Quotations		52

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WE ARE MOVING

On June 20th, 1949, we are moving our office to
808 Western Saving Fund Bldg.,
S. E. Corner Broad & Chestnut Sts.,
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right in the center of things.

Of course we are sorry to leave the cool summer breezes in the Inquirer Tower where we have spent our office hours since May 1933, but as the Inquirer Building is devoting all its space to its own offices and personnel, we had to seek other quarters.

Our new location will be very convenient for our out-of-town visitors; it is near the Broad Street Station of the Pennsylvania Railroad, not far from the Reading Terminal, almost across the street from Wanamaker's.

Please have *all* your records of our address changed.

We extend to all our readers a cordial invitation to visit us in our new headquarters.

A. S. H. V. E. GUIDE

The 1949 edition of the Heating, Ventilating and Air Conditioning Guide, containing a 992-page technical data section, and a 392-page catalog section of the latest products of 249 manufacturers is the largest ever issued by the American Society of Heating & Ventilating Engineers.

Published recently, the 52 chapters of this 27th edition of the Guide are grouped in sections having the following headings: Principles, Human Reaction to Atmospheric Environment, Heating and Cooling Loads, Combustion and Consumption of Fuels, Heating Systems and Equipment Air Conditioning, Special Applications and Installation and Testing Codes.

The Guide is priced at \$7.50. Write "ASBESTOS" if you wish a copy.

ASBESTOS IN AUTOMOBILE TIRES?

Our May number (page 51) asked our readers to tell us how asbestos is used in automobile tires.

This inquiry aroused the interest of one of the Canadian Asbestos Producers, altho he was under the impression that asbestos fibre was not used in the manufacture of tires. He admitted that it might be utilized as a "filler"—rubber compounds for friction materials and some plastics contained it.

The point has been checked with one of the large United States manufacturers of tires, who has confirmed the original impression that asbestos fibre is not suitable for use in the rubber compound from which tires are formed and explains why, in detail. Many of our readers will find his explanation interesting. It follows:

Rubber formulations suitable for use in pneumatic tires must have elongation characteristics in the neighborhood of 400 to 600%. Since the elongation of asbestos fibre is well below 100%, it is not suitable for this application. In general, the ingredients most suitable for the compounding of tire stocks are extremely fine particle size pigments such as Zinc Oxide and Carbon Black. They are classed as reinforcing pigments since they actually improve the tensile strength, modulus characteristics, and abrasion-resistance of the rubber compounds. The characteristics of asbestos fibre are such that it is not suitable for this use.

Further discussion of this question will be welcomed.

PHILADELPHIA ADOPTS NEW BUILDING CODE

The new Building Code has finally become legal in Philadelphia; City Council passed the ordinance without a dissenting vote at its regular meeting on May 5th and the Mayor signed it on May 9th.

The new Code, which takes effect immediately, will permit many economies in building construction and the use of new materials, such as 20,000#, higher concrete stresses and numerous methods and materials of construction not hitherto possible.

RECENT TRENDS IN ASBESTOS MINING AND MILLING PRACTICE

By Michael J. Messel

Editor's Note: This is the second and concluding part of reprint from the February 1949 issue of *Mining Engineering*.

CRUSHING, DRYING AND MILLING.

Because of the rather low ratio of asbestos fibre to rock, an average of 5 to 6%, large tonnages of ore have to be milled in order to operate on a commercially successful basis. A capacity of 1000 tons per day is considered very small and usually the minimum unit.

Basically, there has been no change in the asbestos milling process, which still consists of primary crushing in two stages to reduce the ore to minus 1-1/2 to 2 in., followed by drying the ore for removal of moisture to permit proper milling. The milling process consists of further crushing to release the fibre from the rock along cleavage planes, screening and aspirating the free fibre, followed by further fiberizing in specially designed machines which fluff up the fibre, and further screening and aspirating by air suction of the free fibre into cyclone separators.

This process is repeated in two or three stages, until all marketable fibre is removed and the remaining rock and fine sand is discarded as tailings. The collected fibre is then passed over screens for cleaning and removal of fine sand and unopened spicules of fibre and rock particles. The clean fibre is then classified and graded according to length. There are about 25 grades depending on the proportion of the various lengths of fibres.

Fibre is still valued and sold according to length as determined on a standard Quebec testing machine, tho some mines have their own standard and do not follow the Canadian practice. While preservation of length is still important in milling, more emphasis is now being



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given to efficient extraction of every marketable pound of fibre. Demand has carried this to the point where some of the shorter grades, known as asbestos sand, now contain up to 50%, or more, of granular rock particles. This grade is blended with other short grades for the manufacture of asbestos floor tile.

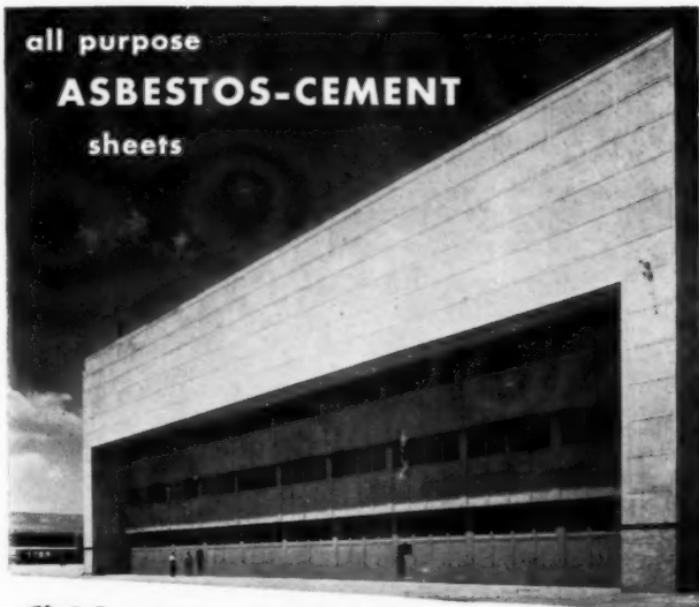
DRYING.

For drying the ore (which contains from 1 up to 20% moisture) no new types of dryers have been developed. Either the vertical stack type or the rotary dryer is used. More attention is being given at present to insulation and to more efficient use of fuel. The relative efficiency of the drier is now about 50%, whereas not long ago 30% was considered good. For efficient milling the rock must be dried to 1½ moisture or less. The dried rock is then stored in large silos or bins. These silos are usually constructed of tailing material which forms natural banks with sloping sides in the form of a hopper that is covered with a structure at the top of which is located a feed conveyor. At the bottom, there is a concrete tunnel with draw points. Silos up to 60,000 tons in capacity have been constructed in this manner at a cost of around \$5 to \$6 per ton of storage. Such silos are economical in construction and permit large storage of dry ore for more effective curing, and also for blending of the ore to attain a more even and constant mill feed. The use of surge piles of ore at various points in the process, from quarry to mill, makes operation more efficient and has been very successfully applied at one mine. These piles require no covering and material is drawn out below thru a concrete tunnel equipped with draw points.

MILLING.

Milling is a dry process. In each ton of ore the fibre length may range from 1½ to 1/16 in., so no fixed flowsheet is possible, as the flowsheet must be adjustable to meet varying conditions. Certain grades of fibre demand special equipment.

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The four factors that can be partially controlled in milling are:

1. The efficiency of the extraction.
2. Maintaining the length of fibre as it originally comes from the deposit.
3. The degree of opening or fluffing of the fibres.
4. The amount of "drops" (—35 mesh) and granular dust remaining in the finished fibre.

FINE CRUSHING AND FIBERIZING.

The use of Symons Shorthead cone crushers set to as fine as $\frac{1}{8}$ in. is finding a place in nearly every flow-sheet. The advantage of this equipment is that it frees the fibre from the rock by crushing it along the plane of weakness without destroying the fibre length. It also produces a harsh primary fibre which is practical for some uses. The crushing also prepares the rock particles for the operation following screening and aspirating, that is, for fiberizing or fluffing of the fibre, together with freeing more fibre and making it amenable to air suction.

Three types of machines have been developed for freeing fibre from rock, and while somewhat similar in principle they may give widely different results on the same ore. The principle of these machines is that of a hammer mill, which by means of rotating hammers, strikes or throws the particles against corrugated plates or jaws, the impact and attrition causing the fibres to open and fluff.

These machines are the Jumbo, Torrey Cyclone, and Impact Mill.

The Jumbo consists of a horizontal steel shell, 36 in. diameter by 72 in. long, lined with corrugated liners, in which is mounted a shaft that has steel arms with beater tips attached. This shaft rotates at 600 rpm. The material enters at the top on one end and is discharged at the bottom of the other. This Jumbo, while efficient, has a tendency to cut up and grind the fibre. The present trend is to replace it with a combination of crushers and vertical type mills.

The Torrey Cyclone and Impact Mill consist of a

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steel shell, approximately 4 to 5 ft. diameter by 5 ft. high. The shell is lined with corrugated manganese plates or jaws. In the center is a rotating shaft to which the beater arms are attached. This shaft rotates at 900 to 1000 rpm.

The Torrey has two sets of hammers separated by an intermediate hopper. The material entering at the top is thrown by the centrifugal force of the hammers against the jaws. The material is then guided toward the center and the action is repeated by the next set of hammers.

The fiberizing in this instance is done by impact against steel jaws, tho there must be some disintegrating action by inertia. The fundamental difference between the Torrey and the Impact Mill, is that in the Impact the intermediate hopper is eliminated; the material falls freely by gravity and is struck by the revolving hammers. Disintegration takes place predominantly by simple inertia.

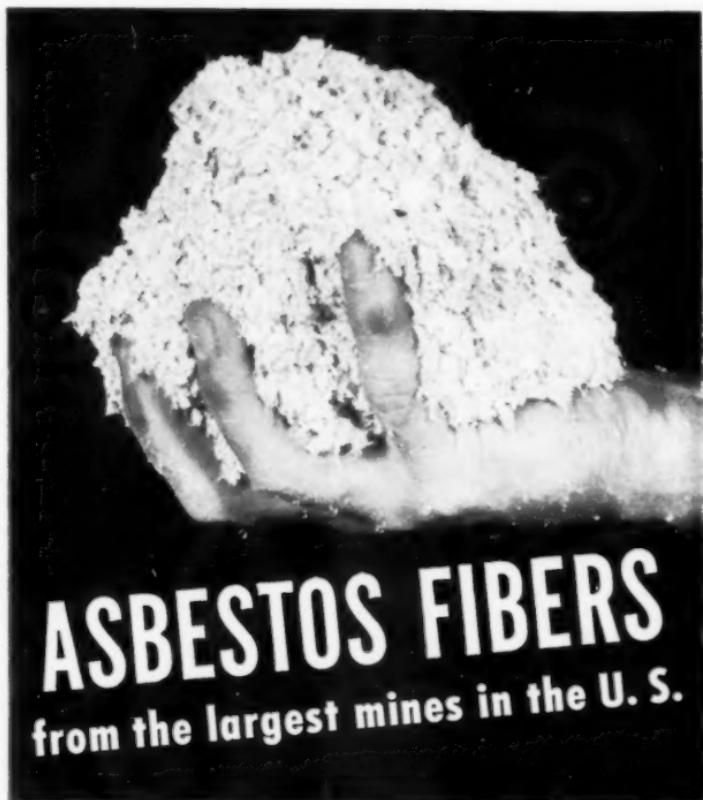
Neither of these machines is ideal, both have a tendency to cut up some fibre and create rock dust. Mechanically, the Impact is superior but requires more power per ton of material fiberized. A more efficient machine may be a modified combination of the two, and this is now being developed.

SCREENING.

Screening is very important in asbestos milling and it occupies about 60% of the total floor space in a mill. It is important to recognize that the fundamental functions of the various screens change from one end of the flow to the other.

At the beginning, in the rock flow, the primary function is some separation and removal of sand, but fundamentally it is to form an even layer of ore so that the fluffed up fibre particles may be aspirated by air.

For treating the collected fibre, the screen function is removal of dust and fine sand, and formation of a bed to facilitate aspirating the fibre by selective air so that unopened particles of fibre and rock will not be lifted



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but returned to the primary rock flow or special circuit for further fiberizing.

The function of screening of cleaned fibre is to separate the various lengths of fibre.

Two main types of screens are used. The reciprocating type actuated by an eccentric is known as a shaking screen, the usual size is 5 by 10 feet, and speeds range from 200 to 450 rpm. The other type is one with a gyratory motion, actuated by a vertical eccentric head. At one time, only shaking screens were used in the industry, and many mills still retain the practice, but some mills have gone exclusively to the gyratory type. There have been very marked improvements mechanically on both types of screens.

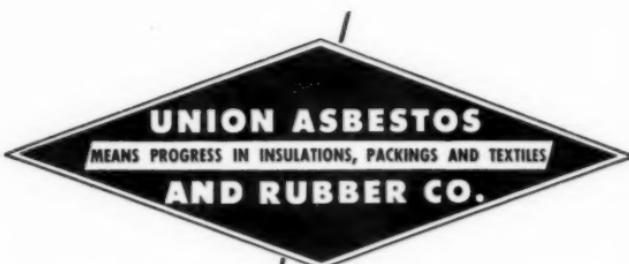
One type of gyratory screen is claimed to have about twice the capacity as compared to the shaking screens, but this is in some instances only, depending on the objective. However, there is little doubt that the gyratory screens are considerably more efficient in the fibre cleaning and classification circuits.

FIBRE COLLECTORS AND AIR SYSTEMS.

Asbestos mills are still a maze of air pipes, cyclone collectors and fans, which are used for aspirating and collecting the fibre. The principle of separating fibre from rock depends on a fan-created vacuum in the collectors. The resultant air suction lifts the fibre off the screens thru the hoods and piping to the collector. About 1 to 2 in. vacuum is required on the rock screens and $\frac{1}{2}$ to 1 in. on the fibre screens. Only developments of a minor nature have taken place here, such as more efficient collectors, improved piping layouts, and more efficient fan blades. About 5000 cfm. is required per screen, and air is such an important item in the process that it takes about 20 to 25% of the total horsepower used in the mill operation.

GRADING AND CLASSIFICATION OF FIBRES.

After the fibre is cleaned, it is usually already partly



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classified and the final adjustments for standard test are made by using screens, or, more frequently, by the rotary type graders. The different mines have developed various types and sizes of their own. Basically, this unit consists of an enclosed trommel of perforated plate which may or may not rotate, and has a central shaft with beater arms which are inclined in the direction of the flow. The materials enter at the top of one end and are forced across to the other end by the beaters. The shorter fibres are forced out thru the screen openings, and longer ones are carried thru and discharged at the end. Various size openings may be used in the same trommel to give different size products. A standard machine now frequently used is 28 in. diameter by 10 ft. long, and rotates anywhere from 200 to 500 rpm. The capacity of these units is usually 1 to 2 tons per hour for long fibres and 4 to 5 tons on the shorter grades. The resulting products from these graders are blended to obtain the desired test and specifications.

DUST COLLECTING.

In asbestos milling, which is a dry process, considerable dust is created in the various operations, together with a large amount contained in the air from the fan exhausts, as the fibre collector is really only a partially efficient separator. Some shorter fibres escape into the fan, and these, if recovered, have commercial value.

In the past, this air has usually been sent thru ducts to a large settling chamber, where the heavier material is dropped because of reduced velocity and returned to a special circuit or department in the mill flow. At the end of the dust building, there is a chimney for the exhaust dust. In one instance where this dust has been objectionable one company has installed a Cotrell system.

However, a recent successful development has been the application of bag type collectors with automatic shaking devices, which usually can be made to fit very nicely into the top of the conventional mill building. These units not only recover the valuable fibre, but also

the dust, so there is a very small amount of exhaust dust in the atmosphere. Some companies are experimenting with the possibilities of recirculating this air. About 98% efficiency by weight is claimed for these units, and at present, there are many installations under way. The cost is approximately 20 cents per cubic foot of air, and about 1 sq. ft. of filter cloth is necessary for filtering 3 cu. ft. of air.

TAILINGS TREATMENT.

Mill efficiency is usually based on fibre recovery, as compared to weight of the rock. This is not based on the original fibre present in the ore, as there is no accurate way to determine this, but on the pounds of marketable fibre that can be recovered from a ton of ore. Therefore, the term "fibre content" varies with conditions, and in the past, due in part to inefficient milling and the non-marketable shorter fibres, many tons of now valuable fibre reached the dumps.

Due to the demand for shorter fibres, some mills have installed Whizzer type air separators or other modified types of air separators on their tailings, rather than adjust or modify the existing flowsheet.

At one mine, a plant is now being constructed to retreat the old tailings dumps by a wet method. The tailings, as they come from the dump, are screened and the plus $\frac{3}{8}$ in. is discarded as of no value. The minus material is sent to cone type classifiers, where the fibre is floated off in water and sent to filters. Later, it is removed, dried and fluffed up, and a clean commercial fibre results.

BAGGING OF FIBRE.

Asbestos fibre, when processed, becomes bulky and difficult to handle. The various grades of fibre are packed either by hand or machine, but more usually by plunger type bagging machines, in 100 pound lots, into either jute or paper bags.

The bagging machines, used at present by the various companies, are rather cumbersome, and there is certainly

plenty of room for improvement here. Bags alone, today, cost about \$4 to \$6 per ton of fibre.

If some method of compressing and bailing, or bulk shipment, could be worked out, it would mean considerable saving to the Industry.

SUMMARY.

Development of the present method of extracting and milling asbestos fibres has taken many years of practice, and the ingenuity of many capable men, to achieve the refinements and controls available today in producing fibres for manufacturing requirements to standard specifications.

In the asbestos milling and manufacturing industry, there are so many variable factors involved, that it is easier to claim progress than to prove it. However, the trend is toward more efficient equipment and more efficient utilization of the fibres. In general there is a cooperative spirit among the various companies which should result in very marked progress in the future.

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CENSUS OF MANUFACTURES

Asbestos Products - 1947

Preliminary Industry Report on Asbestos Products has been issued by the U. S. Bureau of Census, in Report No. MC27A-2, this covering Asbestos-Cement Products, Asbestos Textiles, Asbestos Friction Materials, Asphalt Floor Tile, and Asbestos Millboard.

The main tabulation of this report is given below:

	Year 1947 Shipments and Interplant Transfers	Value f. o. b. Plant
Asbestos-Cement Products		
Siding Shingles & Clapboards (Sqs.)	4,889,000	\$30,682,000
Roofing Shingles (Sqs.)	881,000	6,846,000
Flat sheets and Wallboard (converted to $\frac{1}{4}$ in. thick basis) (Sq. Ft.)	147,516,000	13,419,000
Corrugated Sheets (Sq. Ft.)	41,321,000	5,140,000
Other Asbestos-Cement Products (in- cluding Pipe, Conduits and Ducts)		14,323,000
		\$70,410,000
Asbestos Textiles—(all figures in lbs.)		
Carded Fibre	506,000	178,000
Roving and Lap	4,960,000	1,819,000
Wick and Rope	2,785,000	1,291,000
Yarn, Cord and Thread	9,748,000	4,815,000
Cloth	7,998,000	5,624,000
Tape	3,266,000	2,469,000
Other Asbestos Textiles	1,036,000	795,000
		\$16,991,000
Asbestos Friction Materials		
Brake Lining—woven, containing as- bestos yarn, tape or cloth—lin. ft.	19,589,000	6,968,000
Molded (all nonwoven types)— Cu. Ft.	425,859	31,787,000
Clutch Facings — woven, containing asbestos yarn, tape or cloth (Pcs.)	20,004,000	9,851,000
Molded (all nonwoven types) (Pcs.)	40,296,000	10,000,000
		\$58,606,000
Asphalt Floor Tile (Sq. Yards)	40,981,000	37,825,000
Asbestos Millboard (Ton)	19,355	2,812,000
Other Asbestos Products		7,812,000

(Continued on page 20)

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Another column of this main tabulation in the report shows entire production for all purposes *including further manufacture*.

The figure for "other asbestos products" above covers dryer felts, fabricated asbestos paper products, stove mats and table pads, asbestos insulating cement, gloves.

Report No. MC27A-1, as summarized in our May 1949 number (page 24) covers Pipe and Block Insulation, Gaskets and Packing.

Copies of both these reports may be obtained from the Bureau of Census, Washington, D. C.

REPORT ON ALASKA ASBESTOS DEPOSITS

The U. S. Bureau of Mines, has just released Report of Investigations (R. I. 4414 dated March 1949)—on the Kobuk River Asbestos Deposits, Kobuk District, Northwestern Alaska, by H. E. Heide, W. S. Wright and F. A. Rutledge. The report is a very thoro one, giving the location, physical features, general geology with maps, and other information on tests of the material.

The asbestos areas are located on the Kobuk River in Northwestern Alaska, 30 to 45 miles north of the Arctic Circle, and lie within a zone about 45 miles long. Both chrysotile and tremolite are found in the deposits.

Conclusions given at the end of the report are that recovery of the higher grades of asbestos is so low that the deposits cannot be considered as a source of spinnable asbestos. That there is a possibility the material could be utilized in the manufacture of asbestos shingles and asbestos board, altho the asbestos is more brittle than the Canadian product. (One manufacturer of asbestos-cement products reports that the fibres are too brittle for asbestos-cement manufacture). That there is a possibility the material could be used as a filter medium because of the rapidity with which water passes thru the finer sizes.

A copy of the report can be obtained free of charge by writing the Publications Distribution Section, U. S. Bureau of Mines, 4800 Forbes St., Pittsburgh 14, Pa.



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STATISTICS ON AUSTRALIAN ASBESTOS

The Bureau of Mineral Resources, Geology and Geophysics, Department of Supply and Development, Melbourne, C. I., Victoria, Australia, is issuing quarterly, beginning January 1948, "Economic Notes and Statistics."

Following are statistics for the half year ending June 30, 1948, on the production, imports and exports.

1st half of Year 1948

Production

Anthophyllite	214 tons
Crocidolite	337 tons
Chrysotile	9 tons
	560 tons

valued at £14,734.

Imports

Chrysotile	4,099 tons valued at £167,663
Amosite	697 tons valued at £ 22,124
Crocidolite	298 tons valued at £ 12,322
Other	1,751 tons valued at £ 83,685

or a total of

6,845 tons valued at £285,794

Exports

To New Zealand	9 tons valued at £ 110
Belgium	9 tons valued at £ 220
United Kingdom	64 tons valued at £ 3,716
New Guinea tons valued at £ 19
Sweden	2 tons valued at £ 36

84 tons valued at £ 4,101

Note: Kind of tons, whether long, short or metric, is not stated.

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ASBESTOS COATING A FEATURE OF NEW CAREY ASPHALT SHINGLE

A new type asphalt shingle has been introduced to the trade by the Philip Carey Mfg. Co. under the name of "Fire-Chex".

This new shingle has the remarkable distinction of being the first asphalt shingle in the history of the roofing industry to be rated "Class A" by the Underwriters' Laboratories, Inc., and it is the only shingle of any kind ever to be rated "Class A" without an asbestos felt underlayment. Chiefly responsible for such high rating is its top-coating of an asbestos-bitumen plastic compound.

This coating renders the asphalt coating flow-resistant when exposed to high heat or flame, thus preventing the inflammable felt base from being exposed to the flame. It also forms a "skeletal mat" of high heat insulation properties which shields the underlying combustible roof deck from the heat of the flames, and it increases the tensile strength of the asphalt coating, enabling it to resist blistering when roof deck temperatures soar as high as 170° F.

"Fire-Chex" shingles are already in production at the Lockland plant of the Carey Company.

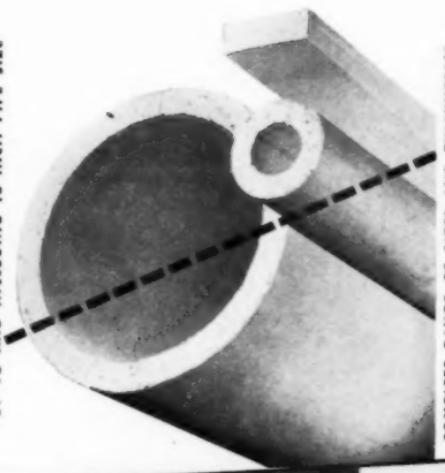
• • •

Charles E. Wilson, President of the General Electric Company speaking before the 17th annual convention of the Edison Electric Institute (held in Atlantic City) said the present industrial decline in production may continue until the second quarter of 1950, but business may again reach the high level of 1948 by the end of 1951.



For Asbestos Packings
RUBBER & ASBESTOS CORP.
25 CORNELISON AVENUE
JERSEY CITY 4, N. J.

PIPE COVERING MADE IN ADDITIONAL FORM
UP TO AND INCLUDING 18-INCH PIPE SIZE



LIGHT DENSITY TYPE

PABCO

PERECISION
MODOLED

85% MAGNESIA INSULATION

"THE DEPENDABLE STANDARD - MODERNIZED"

REG. U. S. PAT. OFF.

REG. U. S. PAT. OFF.

U. S. Patent Nos. 2,131,374 - 2,209,752 - 2,209,753 - 2,209,754



PABCO

THE PARAFFINE COMPANIES, INC., Insulation Division

(Formerly Plant Rubber & Asbestos Works)

475 Brannan Street, San Francisco 19, California - Engineering Service Units in Principal Cities

MARKET CONDITIONS

GENERAL BUSINESS.

Rather mixed are the conditions in general business—very little uniformity. Reduced prices here and there are reported and of course played up by the press, but most firms hesitate to reduce prices when labor and the cost of raw materials remain so high. Some firms are even closing as they cannot operate without a loss.

An odd instance has come to our notice—the residents of a small town in Pennsylvania whose only industry is the processing of steel into sheets, have offered \$125,000 for the plant to avert its closing, their plan being to run the plant as a non-profit organization simply to give the employees work. We shall leave it to our readers to think the idea thru—whether the scheme will work remains to be seen—we have our doubts, but the incident typifies the condition of business generally.

ASBESTOS—RAW MATERIAL.

No practical change has occurred in the Asbestos strike situation and at the moment June 8th, its duration is still uncertain. Stocks of fibre throughout the United States have dropped to a very low point and most manufacturers are gunning on reduced schedules on a hand-to-mouth basis.

A fair volume of production is being obtained by one of the mines involved in the strike, but total production of the operating mines in Canada at the moment approximates only 20% of the normal supply.

ASBESTOS—MANUFACTURED GOODS.

Asbestos Textiles. Comments from one manufacturer: There has been little change since the last report. Cloth business continues to hold its own with prices reasonably firm; tape is off considerably with prices somewhat irregular.

Another manufacturer says: Business has slowed up a bit more than last month. Cloth and tapes have fallen off again with no increase in demand for yarns, rovings, and laps. We anticipate a pick-up in business in the near future.

Brake Lining. Replacement business is off about 10 to 20% because of leveling off of inventories.

Equipment purchases will decrease as a result of the industry wide strikes that have crippled production of automobiles. Unions resist any "speed up" on assembly lines so it is problematical how much of this lost production can be regained during the last six months of the year.

Asbestos Paper. Rehandlers and equipment manufacturers are operating with very limited inventories, anticipating price cuts. When the attitude changes increase in demand may be expected.

As to *Saturated Asbestos Paper*. The demand has picked up slightly but this demand would not equal normal production. The asbestos fibre situation is an important factor in the production of asbestos felt.

Asbestos Millboard. Hand-to-mouth buying is being practiced by rehandlers and equipment manufacturers as they anticipate lower prices. But at the present time prices are firm.

Insulation, High Pressure. Orders for new projects are at a low level, while rehandlers' buying is on a hand-to-mouth basis. Applied work is highly competitive.

Field reports indicate some reduction in the amount of insulation work to be done during the summer months but a big backlog of business starting in the fall and extending into 1950.

Insulation, Low Pressure. The current demand is light but this has always been true during normal business conditions thru the late spring and summer months. We look forward to increased active demand during the fall and winter.

Asbestos-Cement Products. Altho the demand for asbestos roofing and siding shingles is substantially lower than a year ago, with a similar but not quite so severe falling off in the demand for flat and corrugated sheets, there is a temporary scarcity of asbestos-cement products with some manufacturers because of the lack of asbestos as a result of the long continued strike in Canada. Prices are firm and there are the usual indications of seasonal pickup.

in demand similar to that which existed in pre-war years.

The Mine Strike rather confuses the outlook but indications point to increasing demand for the last half of 1949.

Backlogs for water and sewer pipe orders have declined quite substantially during the past two months. Fewer new projects are in prospect and some contemplated work has been indefinitely postponed because of high construction costs.

Demand for flue pipe is seasonally down and for house connection sewer pipe seasonally up.

The above comments have been sent us by executives in close touch with the various markets. All comments are welcomed.

AUTOMOBILE SALES

	April 1949
Passenger Cars	436,392
Motor Trucks	106,212
Motor Coaches	514
	543,118

March Sales totaled 518,118 while April 1948 sales were 438,090.

Total sales for the first four months of 1949 were 1,919,177, compared with 1,718,789 in the same period of 1948.

These figures cover only cars made in the United States. This data is supplied by the Automobile Manufacturers Association of Detroit, Michigan.

BUILDING

Contracts awarded for buildings, public works and public utilities projects in the 37 states east of the Rocky Mountains in April amounted to \$842,586,000, according to F. W. Dodge Corporation. This was a 13% gain over March, and a decline of 4% from April of 1948.

At the month's end the cumulative record for the year in all building and engineering classifications showed a total of \$2,641,656,000 or 8% less than the total reported for the corresponding four months of last year.

STEEL MANDRELS

For Asbestos Cement Pipe Making Machines
Any Diameter — Quick Deliveries

"DURITE TECNICA" — TRIESTE, Cavana 24
Tel. address **DURITE TRIESTE**

ACE ASBESTOS MANUFACTURING CO.



Importers, Exporters, Processors of
Asbestos Fibres of All Varieties

of
RAW ASBESTOS
for
Every Use

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**CHRYSTOILE
AMOSITE
AMPHIBOLE FIBRES**

originating in
**U. S. A. (ARIZONA)
CANADA
RUSSIA
CHINA
INDIA
RHODESIA
SOUTH AFRICA**

•
**Large Capacity Fiberizing and
Grading Plant**

451 Communipaw Ave.

Jersey City, N. J.

PRODUCTION STATISTICS

Canada

(Department of Mines, Province of Quebec)

Production for March 1949 11,771 tons (2000 lbs.)

Compared with March 1948 62,525 tons (2000 lbs.)

By Grades — All tons 2000 lbs.

	1st Quarter 1949	1st Quarter 1948
Crudes	127 tons	228 tons
Fibres	27,280 tons	49,940 tons
Shorts	59,384 tons	109,115 tons
	86,791 tons	159,283 tons

Africa (Rhodesia)

(Published by Rhodesia Chamber of Mines)

Tons — 2000 lbs.

Production for February 1949 6,188.10 tons
Valued at £355,578

Africa (Swaziland)

Production for March 1949 2,800 tons (2000 lbs.)

Union of South Africa

(Quarterly Information Circular—Department of Mines, Pretoria)

Year 1948

Tons — 2000 lbs.	Production		Local Sales		Exports	
	Tons	Tons	Value	Tons	Tons	Value
Amosite	30,372	1,065	£ 17,041	27,635	£ 706,496	
Anthophyllite	13	13	65	
Chrysotile	4,441	2,085	72,354	1,279	66,067	
Cape Blue	8,301	524	7,745	7,826	292,249	
Transvaal Blue	2,608	305	8,228	1,810	73,980	
	45,735	3,992	£105,433	38,550	£1,138,792	

Borrow trouble for yourself if that's your nature, but don't lend it to your neighbors.—*Rudyard Kipling*.

COMPLETE PLANTS
for making PRESSURE PIPES and CORRUGATED SHEETS
Plants designed, equipped and started. Short deliveries.
Our Engineers have had thirty years' experience in making Pipes and Asbestos-Cement sheets.
DURITE TECNICA - Via Cavana 24, TRIESTE, ITALY
Cable address: Durite - Trieste

PHILLIPS ASBESTOS MINES

Producers of

CRUDES

and

Fiberized Asbestos

The World's Finest Fibre



DRAWER 71

GLOBE, ARIZONA

Mines and Mills in Gila Co., Arizona

IMPORTS AND EXPORTS

Imports into U. S. A.

(Figures by Bureau of Census)

Unmanufactured Asbestos — By Countries

	February 1949
	Tons (2240 lbs.)
From Canada	24,963
S. Rhodesia	1,074
U. of South Africa	2,240
Australia	65
U. S. S. R.	147
	28,489
Value	\$2,310,347

By Grades

Crude No. 1, Chrysotile	
Canada	22
S. Rhodesia	132
Crude No. 2, Chrysotile	
Canada	9
S. Rhodesia	282
Crude — Other (Chrysotile)	
S. Rhodesia	660
U. of S. Africa	134
U. S. S. R.	147
Crude — Blue	
Australia	65
U. of S. Africa	649
Crude — Amosite — U. of S. Africa	1,457
Textile Fibres — Chrysotile — Canada	914
Shingle Fibres — Chrysotile — Canada	3,017
Paper Fibres — Chrysotile — Canada	3,080
Fibres — Short Grades — Chrysotile — Canada	17,921
	24,489

Manufactured Asbestos Goods

	February 1949	
	Quantity (Lbs.)	Value
Asbestos Yarn		
United Kingdom	9,950	\$ 7,783
Asbestos Packing — Fabric		
United Kingdom	1,014	933
Asbestos Packing — Not Fabric		

(Continued on page 34)

JOHNSON'S COMPANY LTD.

ESTABLISHED IN 1875

Head Office
Thetford Mines, P. Q. Canada

Mines

Thetford Mines, Quebec
Black Lake, Quebec



Producers of All Grades of
RAW ASBESTOS



REPRESENTATIVES

GREAT BRITAIN	A. A. BRAZIER & CO. "Avenue Lodge" 65a Bounds Green Road, LONDON, N. 22, England.
CHICAGO 4, ILL.	GRANT WILSON, INC. 141 West Jackson Boulevard
NEW YORK, N. Y.	CONNELL ASBESTOS MFG. CO. 117 Martense Street, Brooklyn, 26, New York
SAN FRANCISCO, CALIF.	LIPPINCOTT CO., INC. 451 Market Street

*Imports—Manufactured Asbestos Goods**(Continued from page 32)*

	February 1949	
	Quantity (Lbs.)	Value
United Kingdom	2,687	1,368
Asbestos Woven Fabrics — Other		
United Kingdom	454	350
Asbestos-Cement Products — Not Impreg.		
Canada	181,817	11,823
Mexico	42,889	2,017
Asbestos Brake Lining (Molded)		
Canada	1	2
United Kingdom	15	14
Asbestos Manufactures — Other		
Canada		5
United Kingdom		5,097
	—	
	238,827	\$29,392

*Exports from U. S. A.**(Figures by Bureau of Census)**Unmanufactured Asbestos*

	February 1949	
	Tons (2240 lbs.)	Value
To Venezuela	29	\$ 5,031
Mexico	197	20,675
Germany	385	49,570
Netherlands	31	3,343
Portugal	4	660
Sweden	31	1,575
Australia	2	2,308
Curacao	44	4,010
Other Countries	14	1,050
	—	
	737	\$88,222

Manufactured Asbestos Goods:

	February 1949	
	Quantity	Value
Asbestos Pipe Covg. & Cement	Lbs. 365,733	\$ 41,762
Asbestos Textiles and Yarn	Lbs. 43,198	34,978
Asbestos Packing	Lbs. 167,504	151,145
Asbestos Brake Lining (M.&S.Mld.)	Lbs. 238,352	215,122
Asbestos Brake Lining (Woven)	L. Ft. 89,781	45,799
Asbestos Clutch Facings	No. 109,439	47,675
Asbestos Brake Blocks	Lbs. 17,529	18,026
Asbestos Construction Materials	Lbs. 3,132,342	205,156
Asbestos Manufactures — Other		39,650
	—	
	\$799,263	

FAMOUS FIRSTS

- ! CARTONED COVERINGS
- ! FLEXIBLE BOILER JACKETS
- ! NON-CANVAS PIPE COVERING
- ! DUAL LINER WOOLFELT
- ! IMPROVED CRIMP WOOLFELT

PROVING NORRISTOWN
LEADERSHIP IN LOW PRESSURE FIELD

NORRISTOWN
MAGNESIA & ASBESTOS CO.

PIPE BUSHINGS OUT OF STANDARD PIPE

Suppose you have a $\frac{1}{4}$ " pipe opening in a tank, but you want to put a $\frac{1}{8}$ " pipe in the opening. How can you do it without a standard bushing?

Take a piece of extra heavy $\frac{1}{4}$ " pipe sufficiently long for cutting the outside thread. Then cut off the end to the desired length, drill or ream with $21/64$ " drill (diameter of drill 0.328") and then tap with a $\frac{1}{8}$ " pipe tap.

Many users of pipe do not know this handy kink. Or, if they know it can be done they do not know the correct size of drill to use for tapping. The writer found it necessary to consult handbooks so often in doing work of this sort that he decided to collect all of the data together for all bushings that can be made of ordinary sizes, of extra heavy, and of double extra heavy piping. The result was the table below:

To Bush From	Use This Size of Pipe	Use This Size drill or Reamer
$\frac{3}{8}$ " to $\frac{3}{8}$ "	$\frac{3}{8}$ " Extra Heavy	$21/64$ " Drill = 0.328"
$\frac{3}{8}$ " to $\frac{3}{8}$ "	$\frac{3}{8}$ " " "	None
$\frac{3}{8}$ " to $\frac{3}{8}$ "	$\frac{3}{8}$ " Double Extra Heavy	$21/64$ " Drill = 0.328"
$\frac{3}{8}$ " to $\frac{3}{8}$ "	$\frac{3}{8}$ " " "	$27/64$ " Drill = 0.422"
$\frac{3}{8}$ " to $\frac{3}{8}$ "	$\frac{3}{8}$ " " "	$9/16$ " Drill = 0.562"
$\frac{3}{8}$ " to $\frac{3}{8}$ "	$\frac{3}{8}$ " Extra Heavy	$9/16$ " Drill = 0.562"
$\frac{3}{8}$ " to $\frac{3}{8}$ "	$\frac{3}{8}$ " Double Extra Heavy	$9/16$ " Drill = 0.562"
$\frac{3}{8}$ " to $\frac{3}{8}$ "	$\frac{3}{8}$ " " "	$11/16$ " Drill = 0.688"
1 " to $\frac{3}{8}$ "	1 " " "	$29/32$ " Drill = 0.907"
$1\frac{1}{8}$ " to $\frac{3}{8}$ "	$1\frac{1}{8}$ " " "	$1\frac{3}{8}$ " Drill = 1.125"
$1\frac{1}{8}$ " to 1 "	$1\frac{1}{8}$ " " "	$1\frac{1}{8}$ " Drill = 1.125"
$1\frac{1}{8}$ " to $1\frac{1}{4}$ "	$1\frac{1}{8}$ " " "	$1-15/32$ " Drill = 1.468"
2 " to $1\frac{1}{4}$ "	2 " " "	$1-23/32$ " Drill = 1.72 "
$2\frac{1}{2}$ " to 2 "	$2\frac{1}{2}$ " " "	$2-3/16$ " Drill = 2.187"
3 " to $2\frac{1}{2}$ "	3 " " "	$2-9/16$ " Drill = 2.562"
$3\frac{1}{2}$ " to 3 "	$3\frac{1}{2}$ " " "	$3-3/16$ " Drill = 3.187"
4 " to $3\frac{1}{2}$ "	4 " " "	$3-11/16$ " Drill = 3.688"
$4\frac{1}{2}$ " to 4 "	$4\frac{1}{2}$ " " "	$4-3/16$ " Drill = 4.187"

This table tells the complete story for all ordinary sizes. Note that in one instance, $\frac{3}{8}$ " to $\frac{1}{4}$ ", the internal diameter of $\frac{3}{8}$ " heavy pipe is such that no drilling whatever is necessary. Note also that in bushing from $\frac{1}{2}$ " to $\frac{3}{8}$ " either extra heavy or double extra heavy piping can be used. As will be seen, the table includes sizes of pipe all the way from $\frac{1}{8}$ " to $4\frac{1}{2}$ ". Application of the table will save much valuable time, making it unnecessary to order standard bushings.

ASBESTOS FIBRE SHINGLE GRADES

A NEW MODERN ASBESTOS PLANT
WITH REVOLUTIONARY EQUIPMENT

Your inquiries are invited.



ASBESTOS FIBRES, INC.

Preparation Plant:
33 AVENUE P, NEWARK, N. J.

Main Office:
56 CRITTENDEN ST., NEWARK, N. J.

REAL PIPING SERVICE¹

A Service Tale.

In the hills of West Virginia there is a bituminous coal mine which is famous as a "pipe destroyer". The drainage water piped out of it is particularly acid, and ordinary pipes last only a short time, some only a few months.

Various kinds of piping have been used, without success. Then asbestos-cement piping was tried.

The particular pipe sections used had been installed about 10 years ago in a Western Pennsylvania mine. After two years that mine was shut down and the piping removed to another mine where it was used for another two years and then removed because the mine was closed.

Then it was installed in the Maiden Mine—the "pipe destroyer"—with the same couplings used in both previous mine locations.

Six years later Johns-Manville (the manufacturer of the asbestos-cement pipe) heard the story, and procured samples of the pipe. The sections were sent to their laboratory and tested for flexural strength, hydrostatic strength, density, water absorption, crushing strength and surface hardness (penetration measurement).

The result—altho this asbestos-cement pipe had been in use for 10 years (six of them in the pipe-destroyer Maiden Mine, subject to its acid waters) no deleterious effect was apparent. In fact it appeared that the piping could be used for almost any number of additional years without appreciable change.

¹Information in this tale was obtained from J-M's Power Specialist, Spring (1949) Issue.

• • •

The 37th National Safety Congress and Exposition will be held October 24th to 28th, at Chicago, Ill. For further information write R. L. Forney, General Secretary, National Safety Council, 20 N. Wacker Drive, Chicago 6, Ill.



ARIZONA ASBESTOS

Widely used for filtration in:

1. Asbestos Filter Sheets
2. Filter Aids

Direct from our mines at GLOBE,
ARIZONA.

Also for industrial use, insulation, etc.

ARIZONA CHRYSOTILE ASBESTOS COMPANY

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Eastern Office and Warehouse
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roofing, siding and insulation



45 W. 45th St.

.... SURE
WAY....
of selling the
nation's
roofing,
siding and
insulation
contractors!

CANTOR
PUBLISHING CO.
New York 19, N. Y.

NEWS OF THE INDUSTRY

BIRTHDAYS

E. B. Poulin, Secretary-Treasurer, Asbestonos Corporation, Limited, St. Lambert, Montreal, P. Q., Canada, June 20.

L. R. Leaver, Vice President, Thermoid Co., Trenton, N. J., June 21.

G. A. Schell, Vice President, Thermoid Co., Trenton, N. J., June 22.

Harold W. Donnelly, Sales Manager, Norristown Magnesia & Asbestos Co., Norristown, Pa., June 22.

W. H. Dunn, Treasurer, Raybestos-Manhattan, Inc., Passaic, N. J., June 22.

Walter G. Cowan, Vice President, and General Manager of Manufacture, The Ruberoid Co., New York City, June 26.

A. H. Bennett, President, A. H. Bennett Co., Minneapolis, Minn., June 27.

H. A. King, Manager, Industrial Department, The Ruberoid Co., New York City, June 28.

L. B. Palmer-Ball, President, Palmer Asbestos Co., Louisville, Ky., June 29.

Frank R. Schueler, Vice-President and Secretary, Asbestos, Asphalt & Insulation Mfg. Co., Chicago, Ill., June 30.

Vincent W. Hemphill, Secretary, Standard Asbestos Mfg. Co., Chicago, Ill., July 1.

S. E. Breuleux, Treasurer, The Philip Carey Mfg. Co., Lockland, Cincinnati, Ohio, July 6.

Ghas. S. Wood, Treasurer, Chas. S. Wood & Co., Newark, N. J., July 6.

John D. "Scotty" Boyd, Vice President & General Superintendent, Asbestos Fibres, Inc., Newark, N. J., July 7.

G. K. McKenzie, Secretary, The Flintkote Co., New York City, July 7.

O. C. Smith, President, Bell Asbestos Mines Ltd., Thetford Mines, P. Q., Canada, July 7.

Capt. W. A. Janitch, R. E., Representative in Great Britain for Asbestos Corporation Limited, London, England, July 10.

A. M. Ehret, Jr., President, Ehret Magnesia Mfg. Co., Valley Forge, Pa., July 11.

H. W. Prentis, Jr., President, Armstrong Cork Co., Lancaster, Pa., July 11.

Thomas L. Gatke, President, Gatke Corporation, Chicago, Ill., July 16.

Arthur R. Hahn, Engineer, Asbestos-Cement Associates, Inc., Millington, N. J., July 16.

To all these gentlemen we extend best wishes and congratulations on the occasion of their birthdays.

• BLUE ASBESTOS

The Cape Asbestos Company, Ltd., is the world's largest supplier of acid-resistant blue crocidolite asbestos, and the only manufacturer operating its own mines. Inquiries solicited on:

MILLBOARD

YARNS

ROVINGS POWDER

CLOTHS

PROCESSED FIBRES

Unexcelled for use in
ASBESTOS CEMENT PIPES

• AMOSITE ASBESTOS

This fibre owing to its great length and bulk is unrivalled for use as an insulating medium in:

Asbestos mattress filler

85% Magnesia insulation

The **CAPE ASBESTOS CO.** Limited

Morley House, 28-30 Holborn Viaduct, London, E.C.1.
FACTORY, BARKING, ESSEX

United States Sales Agent:

ARNOLD W. KOEHLER

415 LEXINGTON AVE.

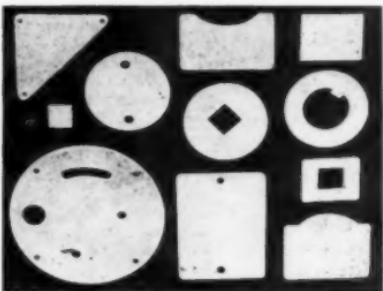
NEW YORK CITY

TELEPHONE—VANDERBILT 6-1477

**FABRICATION OF FLEXBOARD BY
H. K. METAL CRAFT MFG. CO.**

Announcement is made of a working arrangement between Johns-Manville Sales Corporation and H. K. Metal Craft Mfg. Co., 3775 Tenth Avenue, New York 34, N. Y., for the fabrication of Johns-Manville Flexboard, to meet the requirements of manu-

facturers who wish to incorporate this material into their products. Flexboard is an asbestos-cement product. It is approved by the Underwriters' Laboratories as an incombustible material, is a non-conductor of electricity when dry, and completely unaffected by exposure to, or immersion in, water. Flex-



board is suitable to a wide range of uses and products, for both indoor and outdoor purposes, from switchboard panels and table tops to exposed instrument enclosures and signs. A sample of Flexboard, showing the character of the material and a typical job of fabrication, will be furnished upon request to the H. K. Metal Craft Mfg. Company.

**M. I. M. A. PUBLISHES MANUAL
On 85% Magnesia Insulation.**

A 96-page manual on 85% Magnesia insulation, illustrated with line drawings and photographs, is being published by the Magnesia Insulation Manufacturers association and will be available in July to those having a direct interest in industrial heat insulation.

Among the subjects covered are: properties of 85% Magnesia, determination of correct thicknesses, application and finishing procedures, and insulation maintenance. The appendix contains a discussion of practical applications of heat transmission theory, definitions of technical terms, 15 tables of data on 85% Magnesia and related subjects, a glossary of trade terms, and a list of trade names of the insulating material and accessory products.

Requests for copies should be made to the Association, 1317 E. Street, N. W., Washington 4, D. C., on business letterhead, giving the title of the individual making the request. Copies will be numbered and the numbers registered with the Association.

ASBESTONE CORPORATION

**Manufacturers
Asbestos-Cement
Building Products**

**CORRUGATED SHEETS
FLAT SHEETS
ROOFING SHINGLES
SIDING SHINGLES**

Factory and Sales Office
5300 TCHOUPITOULAS STREET
NEW ORLEANS 15, LA.

J-M DEDICATES RESEARCH CENTER

The new Johns-Manville Center was dedicated on May 24th, by Governor (of New Jersey) Alfred E. Driscoll, "to service thru science for better homes and greater industrial efficiency."

Lewis H. Brown, Chairman of Johns-Manville, in responding to the Governor's dedication address, said that "Johns-Manville research has long been known for scientific accomplishment in the control of heat, cold, sound and motion and protection against fire, weather and wear. With the dedication of its new Research Center," he said, "the company has entered a new era of expanded service to homes and industry."

Several hundred distinguished scientists, engineers, builders and diplomats took part in the dedication and tours of the research facilities. Latin American countries, which are showing increasing interest in industrial research, were represented by Embassy and Consular officials from Argentina, Mexico, Colombia, Bolivia, Chile, Costa Rica and Cuba.

The guests inspected the four buildings of the Johns-Manville Research Center, located on a 93-acre tract on the Raritan River, about 40 miles from New York, and saw research scientists at work on more than 400 lines of J-M building and industrial products. J-M research activities are devoted to the improvement of existing J-M products, and the development of new products to meet new needs and demands of industry and home owners and builders.

J-M DIRECTORS RE-ELECTED

All nine directors of Johns-Manville Corporation were re-elected at their annual meeting held on May 13th. They were:

Walter H. Aldridge, President, Texas Gulf Sulphur Co.

Lewis H. Brown, Chairman, Johns-Manville Corporation.

Enders M. Voorhees, Chairman of Finance Committee, U. S. Steel Corporation.

E. T. Stannard, President, Kennecott Copper Corporation.

Henry C. Alexander, Vice President, J. P. Morgan & Co., Inc.

R. W. Lea, President, Johns-Manville Corporation.

John W. Hanes, Director and Chairman of Executive Committee, United States Lines Co.

H. E. Manville, Jr.

Alvin Brown, Vice President, Johns-Manville Corporation.

GATKE CORPORATION

Issues Interesting Folder

"Bonding vs. Riveting" has just been issued by Gatke Corporation. Our readers will find the pros and cons especially interesting. We are sure Gatke will send any of our readers a copy. Address your request to Gatke Corporation, 228 N. LaSalle St., Chicago 1, Ill. and it might help if you mention that you read about it in "ASBESTOS".

CAPITAL REORGANIZATION OF CAPE ASBESTOS COMPANY

Notices were sent out by the Cape Asbestos Company convening for the 8th of June, 1949, an Extraordinary General Meeting of all its members and separate meetings of the Preference and Ordinary Shareholders for the purpose of considering a plan of capital re-organization.

The present authorized capital of the Company is £500,000 divided into 250,000 Preference Shares and 250,000 Ordinary Shares at £1 each, of which 167,000 shares of each class have been issued.

At present the Preference Shares are entitled to a Cumulative Preferential dividend of 5 per cent, per annum, and also to half the available surplus profits remaining thereafter, the other half going to the Ordinary Shareholders. The Preference Shares are also entitled on a winding up to share in the surplus assets remaining after paying off the Ordinary and Preference Shares.

The participating rights attached to the Preference Shares have made it necessary for the Company's share capital to be equally divided at all times in order to preserve the rights of the two classes of shares, and the Company has found this division to be inconvenient in practice.

The plan now proposed provides that the existing Preference Shares shall be converted into Ordinary Shares, and in compensation for the cancellation of their special rights the Preference Shareholders shall each receive credited as fully paid up, one new Preference Share of £1 carrying a fixed preferential dividend of 5% but without further participating rights, for each of the old Preference Shares held by them. The moneys to be provided for paying up the new Preference Shares will be obtained by capitalizing part of the sum which the Company has standing to the credit of its Share Premium Account.

If the plan is approved by Members an application will subsequently be made to the Court for covering sanction.

J-M "NEWS PICTORIAL"

Wins First Prize

Johns-Manville "News Pictorial" was awarded a first prize by the International Council of Industrial Editors held in Toronto, Ont., on May 10th. The magazine was chosen from among 600 entries. It is now in its twelfth year of publication and is distributed to 20,000 company employees in plants, mines and sales offices thruout the United States and Canada. This is the third consecutive award of this type received by the magazine under the editorship of Kenneth G. Ellsworth.

**FRANK H. SHIPE'S SONS
ASSOCIATE WITH HIM IN BUSINESS**

Walter H. Shipe, the younger of the sons of Frank H. Shipe, (well-known to many of our readers as the President, of Asbestos Covering & Roofing Co., Inc., Washington, D. C.) entered the employ of his father's company upon his graduation from Gettysburg College, where he majored in Business Administration, on June 6th.

Mr. Shipe's elder son, John Kelso Shipe, has been with the company since December 1945, after he was returned from the Armed Forces.

Walter, after his graduation from High School, spent three years in the Air Corps in the Pacific Area where he engaged in thirty-four air combat missions.

Mr. Shipe (the father) entered the Insulation Field with the Philip Carey Co. on May 1, 1907, and is to be congratulated that he has now associated with him these two sons.

PABCO BUILDING MATERIALS CONFERENCE

Under supervision of J. E. Holbrook, Vice President of Sales, and L. K. Bishop, Manager of Pabco's Building Materials Division, The Paraffine Companies, Inc., held their semi-annual Sales Conference at the Company's Home Office in San Francisco, May 20 and 21.

TRI-TONE ROOFING SHINGLES BACK

The No. 77 Tri-Tone asbestos-cement strip roofing shingles are back in the Carey line. These were a pre-war favorite of dealers, builders and home owners. They come in beautiful blends, each panel on each strip having its own individual authentic, wood grain texture.

**JOHNS-MANVILLE TO DEVELOP
MINE IN NORTHERN ONTARIO**

In a report issued on May 12th, Lewis H. Brown, Chairman of the Board of Canadian Johns-Manville Co., Ltd., stated that instead of expanding their mining activities at Asbestos, Quebec, as they had planned, the Company would develop a second mine so that "all of their eggs would not be in one basket."

This new mine is, we understand, in Northern Ontario, and the work is already well underway.

J-M EMPLOYEE STOCK PURCHASE PLAN

At their annual meeting on May 13th, the Stockholders of Johns-Manville Corporation, approved an employe stock purchase plan under which key Johns-Manville employees will be afforded the opportunity to buy company stock on a voluntary basis, at the market price on the date of purchase and pay for it over a period of years. Less than 2% of the stockholders voted against the stock purchase plan.

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ASBESTOS MINING INDUSTRY IN CANADA—1948

An eight-page pamphlet under the above title has been issued recently by the Department of Trade and Commerce, Dominion Bureau of Statistics, Ottawa, Canada.

It contains various information and statistics—number of asbestos firms, number of employes, salaries and wages, shipments by grades, tonnage of rock mined and milled, fuel and electricity used, power equipment, taxes paid by the Asbestos Mining Industry, and other data of interest.

If interested write the above mentioned Department for Bulletin A5-9-5-49—price is 25c.

PATENTS

This information obtained from the Official Patent Gazette, published weekly by the U. S. Patent Office, Washington, D. C.

Copies of patents can be obtained by sending 25c (in coin) to The Commissioner of Patents, Washington, D. C., giving the patent number, date it was issued, name of patentee and name of invention.

Magnesia Production. No. 2,465,264. Granted on March 22, 1949 to Robert D. Pike, Pittsburgh, Pa. Assignor to Harbison-Walker Refractories Co., Pittsburgh, Pa. Application November 22, 1944. Serial No. 564,268.

That method of producing high purity hydrated magnesia which comprises treating hydrated lime with magnesium chloride brine in an amount supplying a large excess of magnesium chloride over the requirement of the reaction and thereby producing a slurry of hydrated magnesia containing unreacted lime and carrying adsorbed calcium chloride, subjecting said slurry to counter-current decantation, washing in a series of thickeners, introducing into the last of said thickeners an aqueous solution of magnesium chloride in an amount small relative to that used for treating said lime and such that the ratio of calcium chloride to magnesium chloride is low, thereby causing the hydrated magnesia to preferentially adsorb magnesium chloride with reduction of its lime content and recovering the lime impoverished magnesium hydrate.

Bonded Fibrous Shape. No. 2,465,858. Granted on March 29, 1949 to John H. Ferguson, Somerville, N. J. Assignor to Johns-Manville. Application October 9, 1944. Serial No. 557,941.

A heat and wear resistant shape comprising a mixture of mineral fibres and friction particles bonded by a heat hardened and cured phenolaldehyde resin, each friction particle comprising mineral filler particles suspended in a tough and resilient matrix of heat cured polymerized and resolcinol-coupled linseed oil and said friction particles being present in the shape in major proportions sufficient to render the shape flexible and resilient.

Gasket. No. 2,466,263. Granted on April 5, 1949, to William P. Nardin, Moorestown, N. J., assignor to United States Gasket Co., Camden, N. J. Application October 19, 1944. Serial No. 59,456. Description upon request.

Oil Seal. No. 2,466,533. Granted on April 5, 1949, to Albert J. Chambers, Jr., Palmyra, N. Y., assignor to The Garlock Packing Co., Palmyra. Application April 8, 1947. Serial No. 740,104. Description upon request.

Asbestos Sheet Material. No. 2,467,540. Granted on April 19, 1949, to Marion F. Smith and Harold W. Greider, Wyoming, Ohio, assignors to The Philip Carey Mfg. Co. Application January 15, 1945. Serial No. 572,980.

In the manufacture of a coherent sheet-like body of felted fibres consisting in major proportion by weight of asbestos fibres, the steps comprising contacting the asbestos fibres while disposed in said sheet-like body of felted fibres with an aqueous solution of a water-soluble, inorganic fluoride comprising hydrofluoric acid, said asbestos fibres being initially contacted with said aqueous solution of a water-soluble inorganic fluoride after the fibres in said felted-fibre sheet-like body have been disposed in felted relation in said sheet-like body, and thereafter drying the sheet-like body of felted fibres, thereby bonding together the contacting asbestos fibres in said sheet-like body essentially by interaction in situ between said asbestos fibres as disposed in felted relation in said sheet-like body and said water-soluble inorganic fluoride comprising hydrofluoric acid.

Insulating Tape. No. 2,468,589. Granted on April 26, 1949 to Robert E. Cryor, Western Spring and Henry J. Cahill, Berwyn, Ill., assignors to Union Asbestos & Rubber Co. Application September 28, 1945. Serial No. 619,114.

An insulating tape comprising a cover sheath of woven material, a relatively flat, wide strip of insulating material in the cover sheath forming therewith an elongated, relatively flat tape wound helically into a tube and elongated, resilient spring means fitting within the cover sheath resiliently to hold the tape in helical form.

Heat Insulating Materials. No. 2,469,379. Granted on May 10, 1949 to Lewis H. D. Fraser, Toledo, Ohio, assignor to Owens-Illinois Glass Co., Toledo, Ohio. Application April 24, 1945. Serial No. 589,971.

The method of making a lightweight, open fibrous structure comprising forming a stable dispersion in water spiculated fibres from the group consisting of asbestos and cellulose, lime and finely divided silica, the lime being present in proportion to spiculated fibres of at least about 1.5 to 1 by weight and the silica being present in not less than equi-molecular proportions

of the lime, said spiculated fibres being predominantly of cross-sectional dimensions from about 1/10th to 3 microns and of lengths which are at least about 3 times their respective cross-sectional dimensions and being from about 1/25% to not greater than about 5% by volume of the water, reacting said lime and silica by heating the mixture while preventing substantial loss of water to form a solid, hydrous lime silicate, said dispersion retaining its stability during the reaction and said spiculated fibrous and reaction product forming an integrated structure having substantially the volume and shape of the dispersion and which volume and shape are substantially retained upon de-watering.

Gasket. No. 2,469,474. Granted on May 10, 1949 to Daniel D. Perry, Bainbridge, N. Y., assignor to Bendix Aviation Corporation, New York. Application November 8, 1944. Serial No. 562,511. Description upon request. May not be asbestos.

BOOK LIST

The Asbestos Factbook, 16 pages. Information in compact form on origin, facts, locations, uses, analyses, qualities, 10c per copy.

Asbestos Mining Methods. By C. V. Smith. (Reprint) 16 pages. 25c per copy.

Milling Asbestos. By J. C. Kelleher. (Reprint) 16 pages. Companion article to Asbestos Mining Methods. Both should be in every Asbestos Library, 25c per copy.

Recovery of Raw Asbestos. By Roland Starkey. (Reprint) 6 pages. Supplement to Milling Asbestos. 25c per copy.

Canadian Chrysotile Asbestos Classification. Including latest Quebec Testing Method. January 1, 1949 Edition. 4 pages. 25c per copy.

Processing Asbestos Fibres. 8 pages. (Reprint) 25c per copy

Tests for Cotton Content. 4 pages (Reprint) Describing several methods of testing asbestos textiles for cotton content. 10c per copy.

Chart—Dollars Cost of Uninsulated Pipe. (Reprint) 20c each

Twelve Estimating Tables, with Chart. Convenient in figuring flange fittings and other areas. \$1.00 per set.

Manual of Unit Prices (for figuring pipe covering and blocks) 35c per copy postpaid.

Asbestos: A Magic Mineral, by Lilian Holmes Strack. Written for school children but should be in every Asbestos library. \$1.00 per copy.

Asbestos—The Silk of the Mineral Kingdom, by Oliver Bowles. 40 pages about asbestos, from mine to finished product, in plain language, illustrated, 25c a copy.

Order any of the above from "ASBESTOS", 17th Fl., Inquirer Bldg., Philadelphia 30, Pa. Postage stamps acceptable for amounts less than \$1.00.

AFTERTHOUGHTS

¶Odd, but after we ordered Kentile asphalt tile for the floor of our new office, we learned that it contains asbestos. In fact we are informed that it would be more descriptive and technically more correct to refer to Kentile as "resinated asbestos tile" instead of "asphalt tile."

¶A specimen of Neophite Asbestos (See page 2 of our April 1949 number) has reached us from Becker & Haag, Hamburg, Germany. It is very similar to what we term amphibole in this country, long, fibrous, but very brittle. With it came a comment "The commercial value of Neophite Asbestos appears to be unimportant."

¶An article "Basic Research at J-M Research Center" will be published in our July number. This article accompanied the release concerning the dedication of the J-M. Research Center—page 44, but there was no room for it in this issue. We know our readers, and especially those working in research, will enjoy it.

¶Also crowded out of this issue was the eleventh article in the Asbestos Production Series, which will concern Asbestos Production in South American Countries. This we hope to publish in July.

¶A use for Asbestos Wicking (not oil-stove wick but the wick packing type) which may not be generally known, is for gasket material for carboys for all types (except fluorine) acids. The wicking is saturated with a half-and-half, by volume, mixture of Paraffine Wax and non-Pareil Engine oil, and cut to 14" lengths.

¶Don't forget to change all your records and notify your secretaries and others, of our new address—808 Western Saving Fund Building, S. E. Corner of Broad and Chestnut Streets, Philadelphia 7.

¶LATEST NEWS OF CANADIAN MINES STRIKE. We understand that the Nicolet Mine has signed an agreement with the Union and that their men are back at work.

The status of the strike at Thetford Mines and Asbestos, Que., remains unchanged, as of June 8th.

CURRENT RANGE OF PRICE

As of June 10, 1949

Canada—

	Per Ton (2000 lbs.) f.o.b. Mine
Group No. 1 (Crude No. 1)	\$960.00 to \$1,050.00
Group No. 2 Crude No. 2; Crude	
Run-of-Mine and Sundry	400.00 to 550.00
Group No. 3 (Spinning Fibre)	232.00 to 425.00
Group No. 4 (Shingle Fibre)	95.50 to 141.00
Group No. 5 (Paper Fibre)	78.50 to 88.00
Group No. 6 (Waste, Stucco or Plaster)	58.00
Group No. 7 (Refuse or Shorts)	28.00 to 52.00

Vermont—

	Per Ton of 2000 lbs. f.o.b. Hyde Park or Morrisville, Vt.
Group No. 4 (Shingle Fibre)	\$111.50 to \$124.00
Group No. 5 (Paper Fibre)	79.00 to 96.50
Group No. 6 (Waste, Stucco or Plaster)	59.00
Group No. 7 (Refuse or Shorts)	28.50 to 52.50

ASBESTOS STOCK QUOTATIONS

(These figures are compiled from the Commercial & Financial Chronicle. No guarantee as to their correctness).

	May 1949			
	Par	Low	High	Last
Armstrong Cork (Com)	np	39 1/2	43	40 1/4
Armstrong Cork (Pfd)	np	94 1/4	96	95
Armstrong Cork (Conv. Pfd)	np	106	108	107 3/4
Asbestos Corp. (Com)	np	21 1/2	22 3/4	22
Asbestos Mfg. Co. (Com)	1	1	1 1/8	1
Celotex (Com)	np	18	19 1/4	18 1/2
Celotex (Pfd)	20	16 1/2	17 1/2	16 7/8
Certainteed (Com)	1	9 1/2	11 1/2	10 1/2
Flintkote (Com)	np	22 1/4	24 7/8	22 5/8
Flintkote (Pfd)	np	99 1/4	102	102
Johns-Manville (Com)	np	33	35 1/2	33 1/4
Johns-Manville (Pfd)	100	103 1/2	108	105
Paraffine (Com)	np	16 1/2	18 1/2	16 7/8
Paraffine (Pfd)	100	103	104 1/2	103 1/4
Ray-Man (Com)	np	24 1/2	27	25 1/8
Ruberoid (Com)	np	41 1/4	46	41 3/4
Thermoid (Com)	1	5	5 1/2	5 1/8
Thermoid (Pfd)	50	36	36 3/4	36
Union Asb. & Rub. (Com)	5	11 1/2	12 3/8	11 5/8
United Asb. (Com)	1	46c	68c	46c
U. S. Gypsum (Com)	20	90	97	91 1/2
U. S. Gypsum (Pfd)	100	181 1/4	185	183
U. S. Rubber (Com)	10	36 1/2	39 5/8	37 1/2
U. S. Rubber (Pfd)	100	117	125	120

VERSATILITY

A botanist tells us there are some 340,000 species of plants. Of these, trees live the longest, some being thought to attain the ripe old age of five thousand years.

Raybestos-Manhattan cannot claim quite so many different products, nor guarantee quite such length of service. Yet the variety of asbestos textiles produced at the different R/M plants is unusually large. In fact the uses to which they are put are too many to catalog. Their ability to provide long service under rigorous conditions has been demonstrated over and over again.

RAYBESTOS-MANHATTAN, INC.

Asbestos Textile Division • Manheim, Pa.

Factories: Manheim, Pa.; No. Charleston, S. C.



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Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose
Rubber Covered Equipment • Powdered Metal Products • Bowling Balls

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Southern also produces Asbestos Thread designed to individual needs. Write for Cord and Thread Folder No. 1002.

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individual

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FIBER
WICK

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facilities
e: Just

IN